In the Claims

Claims 30 and 55 are amended.

Claims 1-58 remain in the application and are listed below.

1. (Original) A web content adaptation method comprising:

analyzing one or more functions associated with a webpage; and

adapting the webpage for presentation on a device based on said analyzing.

2. (Original) The method of claim 1, wherein said analyzing comprises generating one or more function-based object models that represent objects comprising the webpage.

3. (Original) The method of claim 2, wherein said generating comprises:

identifying one or more basic objects associated with the webpage, basic objects comprising a smallest information body that cannot be further divided; and

identifying one or more composite objects associated with the webpage, composite objects comprising objects that contain other objects.

4. (Original) The method of claim 1, wherein said adapting comprises doing so in view of one or more networking conditions.

5. (Original) The method of claim 1, wherein said adapting comprises doing so in view of one or more user preferences.

6.   (Original) A web content adaptation method comprising:

analyzing one or more functions associated with a webpage that is configured for presentation within a first client environment; and

based on said analyzing, adapting the webpage for presentation within a second client environment that is different from the first client environment.

7.   (Original) The method of claim 6, wherein said analyzing comprises generating one or more function-based object models that represent objects comprising the webpage.

8.   (Original) The method of claim 7, wherein said generating comprises:

identifying one or more basic objects associated with the webpage, basic objects comprising a smallest information body that cannot be further divided; and

identifying one or more composite objects associated with the webpage, composite objects comprising objects that contain other objects.

9.   (Original) The method of claim 8, wherein said generating further comprises generating said one or more function-based object models as a function of properties that are associated with said one or more basic objects and said one or more composite objects.

10.   (Original) The method of claim 9, wherein said adapting comprises applying one or more rules to said one or more function-based object models.

11.   (Original) The method of claim 6, wherein said first and second client environments pertain to different client devices.

12.   (Original) The method of claim 6, wherein said first and second client environments pertain to different types of client devices.

13.   (Original) The method of claim 6, wherein said first and second client environments pertain to different network conditions.

14.   (Original) The method of claim 6, wherein said first and second client environments pertain to different user preferences.

15.   (Original) One or more computer-readable media having computer-readable instructions thereon which, when executed by one or more processors, cause the one or more processors to implement the method of claim 6.

16. (Original) A web content adaptation method comprising:

analyzing one or more functions associated with a webpage that is configured for presentation on a first device type, said analyzing being performed by generating one or more function-based object models that represent objects comprising the webpage,

said objects comprising:

one or more basic objects associated with the webpage, basic objects comprising a smallest information body that cannot be further divided, said one or more basic objects being configured to perform one or more of the following functions: (1) providing semantic information, (1) navigating to other objects, (3) providing a visual effect on the webpage, and (4) enabling user interaction; and

one or more composite objects associated with the webpage, composite objects comprising objects that contain other objects, said one or more composite objects having a clustering function that is associated with a webpage author's intention; and

based on said analyzing, adapting the webpage for presentation on a second device type that is different from the first device type.

17. (Original) The method of claim 16, wherein said generating of the one or more function-based object models comprises generating multiple function-based object models each of which being generated as a function of multiple different properties that can be associated with associated objects.

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18. (Original) The method of claim 16, wherein said generating of the one or more function-based object models comprises generating at least one function-based object model for a basic object, said at least one function-based object model being generated as a function of one or more of the following properties: (1) a presentation property that defines a way in which the object is presented, (2) a semanteme property associated with content of an object, (3) a decoration property pertaining to an extent to which the basic objects serves to decorate the webpage, (4) a hyperlink property pertaining to an object to which the basic object points via a hyperlink, and (5) a interaction property pertaining to an interaction method of the basic object.

19. (Original) The method of claim 16, wherein said generating of the one or more function-based object models comprises generating at least one function-based object model for a composite object, said at least one function-based object model being generated as a function of one or more of the following properties: (1) a clustering relationship property pertaining to a relationship among root children of the composite object, and (2) a presentation relationship property pertaining to a presentation order associated with the root children of the composite object.

20. (Original) The method of claim 16, wherein said generating of the one or more function-based object models comprises generating at least one specific function-based object model that serves to categorize an object.

21. (Original) The method of claim 20, wherein said generating of said at least one specific function-based object model comprises, for a basic object, generating said at least one specific function-based object model based upon properties of the basic object and properties associated with any father or brother objects.

22. (Original) The method of claim 20, wherein said generating of said at least one specific function-based object model comprises, for a composite object, generating said at least one specific function-based object model based upon properties of the composite object and any of its root children.

23. (Original) The method of claim 20, wherein said generating of said at least one specific function-based object model comprises using a rule-based decision tree to ascertain a category of an object.

24. (Original) The method of claim 16, wherein said adapting comprises applying one or more rules to said function-based object models.

25. (Original) One or more computer-readable media having computer-readable instructions thereon which, when executed by one or more processors, cause the one or more processors to implement the method of claim 16.

26. (Original) A web content adaptation method comprising:

analyzing one or more functions associated with a webpage by generating one or more function-based object models that represent objects comprising the webpage,

said objects comprising:

one or more basic objects associated with the webpage, basic objects comprising a smallest information body that cannot be further divided, said one or more basic objects being configured to perform one or more of the following functions: (1) providing semantic information, (1) navigating to other objects, (3) providing a visual effect on the webpage, and (4) enabling user interaction; and

one or more composite objects associated with the webpage, composite objects comprising objects that contain other objects, said one or more composite objects having a clustering function that is associated with a webpage author's intention; and

based on said analyzing, adapting the webpage for presentation on a device.

27. (Original) The method of claim 26, wherein said adapting comprises doing so in view of one or more networking conditions.

28. (Original) The method of claim 26, wherein said adapting comprises doing so in view of one or more user preferences.

29. (Original) One or more computer-readable media having computer-readable instructions thereon which, when executed by one or more processors, cause the one or more processors to:

analyze one or more functions associated with a webpage that is configured for presentation on a first device type by generating one or more function-based object models that represent objects comprising the webpage,

said objects comprising:

one or more basic objects associated with the webpage, basic objects comprising a smallest information body that cannot be further divided, said one or more basic objects being configured to perform one or more of the following functions: (1) providing semantic information, (1) navigating to other objects, (3) providing a visual effect on the webpage, and (4) enabling user interaction; and

one or more composite objects associated with the webpage, composite objects comprising objects that contain other objects, said one or more composite objects having a clustering function that is associated with a webpage author's intention;

said generating of the one or more function-based object models comprising generating at least one function-based object model for a basic object, said at least one function-based object model being generated as a function of one or more of the following properties: (1) a presentation property that defines a way in which the object is presented, (2) a semanteme property associated with content of an object, (3) a decoration property pertaining to an extent to which the basic objects serves to decorate the webpage, (4) a hyperlink property pertaining to an object to

which the basic object points via a hyperlink, and (5) a interaction property pertaining to an interaction method of the basic object;

said generating further comprising generating at least one function-based object model for a composite object, said at least one function-based object model for the composite object being generated as a function of one or more of the following properties: (1) a clustering relationship property pertaining to a relationship among root children of the composite object, and (2) a presentation relationship property pertaining to a presentation order associated with the root children of the composite object;

said generating further comprising generating at least one specific function-based object model that serves to categorize an object by:

for a basic object, generating said at least one specific function-based object model based upon properties of the basic object and properties associated with any father or brother objects; and

for a composite object, generating said at least one specific function-based object model based upon properties of the composite object and any of its root children; and

based upon an analysis of said one or more functions, adapt the webpage for presentation on a second device type that is different from the first device type.

30.   (Currently Amended) The one or more computer-readable media of claim 29, wherein said instructions cause the one or more processors to adapt the webpage for presentation on a WAP (Wireless Application Protocol)-enabled device.

31.   (Original) A web content adaptation method comprising:

receiving multiple web pages that are configured for display on a first device type;

processing the multiple web pages to provide multiple different objects associated with the webpages, individual objects having one or more properties relating to functions of the individual object;

applying one or more rules to the objects sufficient to provide multiple different webpages that are configured for display on a second device type that is different from the first device type.

32.   (Original) The method of claim 31, wherein the individual objects can have a presentation property that defines a way in which the object is presented.

33.   (Original) The method of claim 31, wherein the individual objects can have a semanteme property associated with the content of an object.

34.   (Original) The method of claim 31, wherein the individual objects can have a decoration property pertaining to the extent to which an object serves to decorate a webpage.

35.   (Original) The method of claim 31, wherein the individual objects can have a hyperlink property pertaining to an object to which another object points via a hyperlink.

36. (Original) The method of claim 31, wherein the individual objects can have a interaction property pertaining to an interaction method of an object.

37. (Original) The method of claim 31, wherein the individual objects can have a clustering relationship property pertaining to a relationship among any root children of an object.

38. (Original) The method of claim 31, wherein the individual objects can have a presentation relationship property pertaining to a presentation order associated with any root children of an object.

39. (Original) The method of claim 31, wherein said processing comprises defining a representation of an object that includes any children of said object.

40. (Original) The method of claim 31, wherein said processing comprises assigning a category to one or more objects.

41. (Original) The method of claim 40, wherein said assigning comprises using a rule-based decision tree to ascertain a category for said one or more objects.

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PAGE 14/36 * RCVD AT 3/14/2005 2:48:57 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/3 * DNIS:8729306 * CSID:509 323 8979 * DURATION (mm-ss):09-52

42. (Original) The method of claim 40, wherein said assigning comprises assigning a category from a set of object categories comprising: (1) an information object that presents content information, (2) a navigation object that provides a navigation function, (3) an interaction object that provides for user interaction, (4) a decoration object that serves a decoration function, (5) a special function object that performs a defined function, and (6) a page object that is associated with presentation of related information.

43. (Original) A web content adaptation method that adapts web content from one format to another, and which uses multiple function-based object models to do so, where the function-based object models comprise models that pertain to (1) basic objects that comprise a smallest information body that cannot be further divided, and (2) composite objects that comprise objects that can contain other objects.

44. (Original) The web content adaptation method of claim 43, wherein the function-based object models are generated as a function of one or more properties associated with the objects.

45. (Original) A system for adapting web content from one format to another comprising one or more function-based object models, individual function-based object models representing objects that are present in a webpage in terms of one or more of an object's functional properties.

46. (Original) The system of claim 45, wherein one of the properties comprises a presentation property that defines a way in which the object is presented.

47. (Original) The system of claim 45, wherein one of the properties comprises a semanteme property associated with the content of an object.

48. (Original) The system of claim 45, wherein one of the properties comprises a decoration property pertaining to the extent to which an object serves to decorate a webpage.

49. (Original) The system of claim 45, wherein one of the properties comprises a hyperlink property pertaining to an object to which another object points via a hyperlink.

50. (Original) The system of claim 45, wherein one of the properties comprises a interaction property pertaining to an interaction method of an object.

51. (Original) The system of claim 45, wherein one of the properties comprises a clustering relationship property pertaining to a relationship among any root children of an object.

52. (Original) The system of claim 45, wherein one of the properties comprises a presentation relationship property pertaining to a presentation order associated with any root children of an object.

53. (Original) Software code embodied on a computer-readable medium that implements the system of claim 45.

54. (Original) A computer architecture for use in adapting web content for display on a computing device, the architecture comprising:

an analysis module for receiving at least one webpage and processing the one webpage to produce one or more function-based object models that describe functional properties of objects that are contained in the one webpage;

one or more rules modules that contain rules that are to be used to adapt content contained in the webpage; and

a content adaptation module configured to process the one or more function-based object models in accordance with one or more rules contained in the one or more rules modules to produce a new web page that has been adapted from the one web page.

55. (Currently Amended) The computer architecture of claim 54, wherein the content adaptation module is configured to produce a new web page for display on a WAP (Wireless Application Protocol)-enabled device.

56. (Original) The computer architecture of claim 54, wherein said analysis module is configured to produce function-based object models that pertain to both basic objects and composite objects,

basic objects comprising a smallest information body that cannot be further divided; and

composite objects comprising objects that contain other objects.

57. (Original) The computer architecture of claim 56, wherein said analysis module is configured to produce, for basic objects, function-based object models that comprise values associated with the following properties: (1) a presentation property that defines a way in which the object is presented, (2) a semanteme property associated with content of an object, (3) a decoration property pertaining to an extent to which the basic objects serves to decorate the webpage, (4) a hyperlink property pertaining to an object to which the basic object points via a hyperlink, and (5) a interaction property pertaining to an interaction method of the basic object.

58. (Original) The computer architecture of claim 56, wherein said analysis module is configured to produce, for composite objects, function-based object models that comprise values associated with the following properties: (1) a clustering relationship property pertaining to a relationship among root children of the composite object, and (2) a presentation relationship property pertaining to a presentation order associated with the root children of the composite object.